

Notice of Allowability

Application No.

09/558,121

Examiner

AHMED ELALLAM

Applicant(s)

LAROSA ET AL.

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 5/04/2006.
2. ☒ The allowed claim(s) is/are 1, 2, 5-15, 17-19, 22-26, 29-34 respectively renumbered 1-12, 14, 13, 15-27.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DORIS H. TO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance:

The prior art of records fails to teach or suggest the followings:

A method in a radiotelephone operable in a code division multiple access (CDMA) system of acquiring a pilot signal, the method comprising:

storing samples of a received signal, generating, during the step of storing, a PN sequence, selecting a pseudo-random noise (PN) offset for the PN sequence, correlating at least a portion of the samples with at least a portion of the PN sequence to produce a correlation energy, choosing a new PN offset, comparing the correlation energy to an energy threshold, and repeating the steps of correlating, choosing and comparing until any of: a PN sequence timing is found that produces the correlation energy at least equal to the energy threshold or the step of comparing is performed a predetermined number of times, and wherein during the step of correlating, the PN sequence is re-generated with reference to the PN offset at a faster rate than the step of generating, as indicated in independent claim 1.

A method in a radiotelephone operable in a code division multiple access (CDMA) system of acquiring a pilot signal, the method comprising:

activating at least a portion of a searcher receiver, initiating the generation of a pseudo-random noise (PN) sequence, storing samples of a received signal, noting

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during the step of storing, a position of the PN sequence, producing responsive to the step of noting, a reference position of the PN sequence, re-generating the PN sequence using the reference position, correlating during the step of re-generating, at least a portion of the samples with at least a portion of the PN sequence to produce a correlation energy, incrementing in response to regenerating the reference position, comparing the correlation energy to an energy threshold, and repeating the steps of re-generating, correlating, incrementing and comparing until any of: a PN sequence timing is found that produces the correlation energy at least equal to the energy threshold, or the step of comparing is performed a predetermined number of times, as indicated in independent claim 9.

A method in a radiotelephone operable in a code division multiple access (CDMA) system of acquiring a pilot signal, the method comprising (inter alias):

Storing a predetermined number of a plurality of samples of a received signal, generating a PN sequence at each of a plurality of PN offsets, correlating the samples from the same stored predetermined number of samples with the PN sequence at each of the plurality of different PN offsets to produce corresponding energies at faster rate than the step of storing, as indicated in independent claim 13.

A method in a radiotelephone operable in a code division multiple access (CDMA) system of acquiring a pilot signal, the method comprising (inter alias):

storing a predetermined number of a plurality of samples of a received signal, generating a PN sequence at each of a plurality of PN offsets, correlating the predetermined number of samples with the PN sequence at each of the plurality of different offsets, the correlation including a first correlation involving a first portion of the PN sequence, and a second correlation involving a second portion of the PN sequence, wherein if during the step of correlating the first correlation produces an intermediate correlation energy less than an intermediate threshold for a particular PN offset, the second correlation at that particular PN offset is not performed, choosing a PN sequence timing based upon the PN sequence and a PN offset that produces a full correlation energy at least equal to a predetermined threshold, as indicated in independent claim 15.

An apparatus for acquiring a pseudo-random (PN) sequence timing for a code division multiple access (CDMA) radiotelephone, the apparatus comprising:

a buffer to store a plurality of samples of a received signal, a correlator to correlate at least a portion of the same stored samples with PN sequence at each of a plurality of different PN offsets to produce a correlating energy, a memory coupled to the correlator for storing a predetermined number of highest correlation energies and corresponding PN offsets, and wherein if after a predetermined number of correlations none of the produced correlation energies at least equal an energy threshold, a PN offset corresponding to a highest correlation energy is chosen from the memory, as indicated in independent claims 18, 25 and 32.

A method/apparatus in a radiotelephone operable in a code division multiple access (CDMA) system of acquiring a pilot signal, the method comprising (inter alias):
generating a PN sequence at a first rate, storing samples of a received signal at the first rate, noting during the step of storing a reference position of the PN sequence, re-generating at a second rate the PN sequence starting from the reference position, the second rate faster than the first rate, correlating during the step of re-generating at least a portion of the samples with at least a portion of the PN sequence to produce a correlation energy, if the correlation energy is at least equal to an energy threshold, a corresponding reference is assigned to at least one demodulation branch or if comparing the correlation energy to the energy threshold is performed a predetermined number of times a reference position corresponding to the highest correlation energy is assigned to at least one demodulation branch, as indicated in respective independent claims 33 and 34.

Conclusion

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED ELALLAM whose telephone number is (571) 272-3097. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, To Doris can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AHMED ELALLAM
Examiner
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5/13/06